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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/908,085	07/18/2001	Sanjai Singh	04899-059001	7523
959	7590	02/10/2004	EXAMINER	
LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109			THAI, CUONG T	
			ART UNIT	PAPER NUMBER

2173

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/908,085

Applicant(s)

SINGH, SANJAI

Examiner

CUONG T THAI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Feb/19/2002 Pre Amendment A.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

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## DETAIL ACTION

1. Claims 1-13 are presented for examination.

### *Claim Objections*

2. Claim 9 is objected to minor informality, Applicant is advised to change the citation "The method of claim 10" to "The method of claim 1" to maintain consistency to claim 1, line 8.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5, 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKaskle et al. (USPN: 5,481,741) hereinafter McKaskle as applied to claims above in view of Uczekaj et al. (USPN: 5,920,718) hereinafter Uczekaj.

As per claims 1 (method), 11 (readable medium), and 12 (system); McKaskle discloses a method of graphical block diagram modeling as the technique of a system for modeling a process (see col. 6, lines 48-49) including block diagram generally corresponding to the graphical representation of a sequence structure (see col. 7, lines 20-22), comprising:

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Providing graphical blocks interconnected to form a graphical subsystem block is taught by McKaskle as the technique of the block diagram is built using a graphical programming environment, and the block diagram can be thought of as source code in this environment. The components of the block diagram represent program nodes that are “wired” together to show the flow of data within the block diagram (see col. 38, lines 50-55);

Construct a graphical class instance of a graphical class that corresponds to the graphical subsystem block for use in a graphical block diagram model of a user is taught by McKaskle as the technique of Fig. 8A shows a system representation of a virtual instrument. Boxes 8a-8k, indicates conceptual objects in the system that have well defined properties. Objects 8i, 8j, and 8k are grouped into shaded box 8s and share some properties and form a class of objects (see col. 14, lines 63-67) and reading an attribute node refers to the execution subsystem reading the value of an attribute for a certain control during block diagram execution may be changed by the user, or may have been changed during execution of a VI by the execution subsystem (see col. 6, lines 20-24);

Enabling a change to a value of a parameter of a selected one of a graphical blocks to be made by the user is taught by McKaskle as the technique of some attributes can be changed by a user and practically all can be changed by the execution subsystem (see col. 6, lines 26-27);

Constructing from the graphical class instance is taught by McKaskle as the technique of objects 8i, 8j, and 8k are grouped into shaded box 8s and share some properties and form a class of objects (see col. 14, lines 66-67).

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McKaskle, however, does not disclose the limitation of constructing from the graphical class instance and the change a graphical subclass instance that inherits structure from the graphical class.

Uczekaj discloses the limitation of constructing from the graphical class instance and the change a graphical subclass instance that inherits structure from the graphical class as the technique of the fundamental aspects of object oriented programming is that objects can be organized into classes in a hierarchy fashion and that objects are interpretable (see col. 5, lines 1-4), the graphical control system allows a user to easily enter object information and associated control information in a single graphical user interface (see abstract), and subclasses allow the introduction of a new class into a class hierarchy, subclasses inherit the behavior of the higher class, from which they depend, plus new behavior original with the subclass (see col. 5, lines 10-13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include Uczekaj's teaching of constructing from the graphical class instance and the change a graphical subclass instance that inherits structure from the graphical class into that of McKaskle's graphical modeling invention. By doing so, the system would be enhanced by capable of introducing a new subclass and the new introduced subclass would change the appearance of object modeling hierarchy structure.

As per claim 2, the limitation of providing to the user a user interface having a dialog box corresponding to the selected one of the graphical blocks to accept input from the user for any parameter that can be changed is taught by McKaskle as the technique of a system and method is

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provided which allows a user to programmatically access various parameters of a control. In this manner, a user can programmatically make changes that affect the output or appearance of controls. A user can also access these parameters interactively during execution of a block diagram (see col. 52, lines 61-67). This claim is therefore rejected for the reason as set forth above.

As per claim 3, McKaskle discloses the invention substantially as claimed above. McKaskle, however, does not disclose the limitation of storing data associated with the change in a data structure as subclass data, the subclass data structure defining a subclass from which the graphical subclass instance is instantiated.

Uczekal discloses the limitation of storing data associated with the change in a data structure as subclass data, the subclass data structure defining a subclass from which the graphical subclass instance is instantiated as the technique of subclasses allow the introduction of a new class into a class hierarchy, subclasses inherit the behavior of the higher class, from which they depend, plus new behavior original with the subclass (see col. 5, lines 10-13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include Uczekaj's teaching of storing data associated with the change in a data structure as subclass data, the subclass data structure defining a subclass from which the graphical subclass instance is instantiated into that of McKaskle's graphical modeling invention. By doing so, the system would be enhanced by capable of introducing and storing a new subclass and the stored a new subclass would change the behavior hierarchical appearance structure.

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As per claim 5, McKaskle discloses the invention substantially as claimed above.

McKaskle, however, does not disclose the limitation of merging the graphical subclass instance with the graphical class.

Uczekaj discloses the limitation of merging the graphical subclass instance with the graphical class as the technique of subclasses allow the introduction of a new class into a class hierarchy, subclasses inherit the behavior of the higher class, from which they depend, plus new behavior original with the subclass (see col. 5, lines 10-13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include Uczekaj's teaching of merging the graphical subclass instance with the graphical class into that of McKaskle's graphical modeling invention. By doing so, the system would be enhanced by capable of merging the new subclass instance with the graphical class and the result would change the object modeling appearance.

As per claim 9, the limitation of wherein the structure comprises connectivity and layout information is taught by McKaskle as the technique of the block diagram is built using a graphical programming environment, and the block diagram can be thought of as source code in this environment. The components of the block diagram represent program nodes that are "wired" together to show the follow of data within the block diagram (see col. 38, lines 50-55) and the Show Diagram option makes the diagram window active (see col. 43, lines 1-2). This claim is therefore rejected for the reason as set forth above.

As per claims 10 (method) and 13 (system), McKaskle discloses a method of graphical diagram modeling as the technique of a system for modeling a process (see col. 6, lines 48-49) including block diagram generally corresponding to the graphical representation of a sequence structure (see col. 7, lines 20-22), comprising:

Providing a class library comprising graphical classes defined in terms of graphical subsystem blocks, the subsystem blocks comprising sub-blocks is taught by McKaskle as the technique of the block diagram is built using a graphical programming environment, and the block diagram can be thought of as source code in this environment. The components of the block diagram represent program nodes that are “wired” together to show the flow of data within the block diagram (see col. 38, lines 50-55) and a solid line with an arrow is used to indicate a potential one-to-many relationship, i.e., the source object contains zero or more destination objects. A dashed line with an arrow is used to indicate a potential one-to-one relationship, i.e., the source object may reference zero or one destination object (see col. 15, lines 2-8).

McKaskle, however, does not disclose the limitation of creating a graphical subclass of a selected one of the graphical classes by modifying a sub-block parameter that is not a top-level parameter of the selected class, wherein the subclass inherits subsequent changes to the graphical class.

Uczekaj discloses the limitation of creating a graphical subclass of a selected one of the graphical classes by modifying a sub-block parameter that is not a top-level parameter of the selected class, wherein the subclass inherits subsequent changes to the graphical class as the technique of the fundamental aspects of object oriented programming is that objects can be organized into classes in a hierarchy fashion and that objects are interpretable (see col. 5, lines 1-

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4), subclasses allow the introduction of a new class into a class hierarchy, subclasses inherit the behavior of the higher class, from which they depend, plus new behavior original with the subclass (see col. 5, lines 10-13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include Uczekaj's teaching of creating a graphical subclass of a selected one of the graphical classes by modifying a sub-block parameter that is not a top level parameter of the selected class, wherein the subclass inherits subsequent changes to the graphical class into that of McKaskle's graphical modeling invention. By doing so, the system would be enhanced by capable of allowing user to creating a graphical subclass in class hierarchical modeling structure and also allowing user to change the subclass parameter at any desired level from which would change the appearance of object modeling hierarchy structure.

5. Claims 4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKaskle et al. (USPN: 5,481,741) hereinafter McKaskle as applied to claims above in view of Uczekaj et al. (USPN: 5,920,718) hereinafter Uczekaj and further in view of Chang et al. (USPN: 5,627,979) hereinafter Chang.

As per claim 4, McKaskle-Uczekaj discloses the invention substantially as claimed above. McKaskle-Uczekaj, however, does not disclose the limitation of wherein the subclass data includes a relative path to the graphical subsystem block, a name of the parameter and the changed value.

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Chang discloses the limitation of wherein the subclass data includes a relative path to the graphical subsystem block, a name of the parameter and the changed value as the technique of Dog subclass data 880 has the relative path 870 to the graphical subsystem block Animal 860, the name of Dog parameter (see Fig.8) and after a user has define objects schema, data store schema, and the mapping between the object schema and data store schema, and generated access methods using the Smart Schema 110, the user may register the mapping and access methods with a Data Store Manager to provide access of objects from a data store in a run-time environment (see col. 8, lines 20-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include Chang's teaching of wherein the subclass data includes a relative path to the graphical subsystem block, a name of the parameter and the changed value into that of McKaskle-Uczekaj combined invention. By doing so, the system would be enhanced by allowing user to identify the location of the subclass among the graphical subsystem block and to perform editing task based on user's desired manner.

As per claim 6, McKaskle-Uczekaj discloses the invention substantially as claimed above. McKaskle-Uczekaj, however, does not disclose the limitation of associating a visual cue with the graphical subclass instance to allow the user to distinguish the graphical subclass instance from the graphical class instance.

Chang discloses the limitation of associating a visual cue with the graphical subclass instance to allow the user to distinguish the graphical subclass instance from the graphical class instance as the technique of visual cue Object Schema window 800 to allow user to distinguish

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the graphical subclasses Dog 880 and Cat instance from the graphical class instance 860 (see Fig. 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include Chang's teaching of associating a visual cue with the graphical subclass instance to allow the user to distinguish the graphical subclass instance from the graphical class instance into that of McKaskle-Uczekaj combined invention. By doing so, the system would be enhanced by capable of allowing user to visually distinguish graphical subclass instance from graphical class instance.

As per claim 7, McKaskle-Uczekaj discloses the invention substantially as claimed above. McKaskle-Uczekaj, however, does not disclose the limitation of wherein the user is provided a display of a selected graphical block that has a title, and further wherein associating comprises modifying the title to indicate to the user that a graphical subclass instance has been constructed for the selected block.

Chang discloses the limitation of wherein the user is provided a display of a selected graphical block that has a title, and further wherein associating comprises modifying the title to indicate to the user that a graphical subclass instance has been constructed for the selected block as the technique of the user wants to map many existing tables to one existing class. For example, the user may map table Employee 2010 and table Address 2020 to the class Person 2030 (see col. 15, lines 3-6) and the associating graphical subclass table Employee has been constructed for the modify of Employee Num., Name, Hire Date (see Fig. 23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include Chang's teaching of wherein the user is provided a display of a selected graphical block that has a title, and further wherein associating comprises modifying the title to indicate to the user that a graphical subclass instance has been constructed for the selected block into that of McKaskle-Uczekaj combined invention. By doing so, the system would be enhanced by capable of allowing user to select graphical block subclass instance from class instance for modifying. Thus, the system would provide an intuitive editing tool to an end user.

As per claim 8, McKaskle disclose wherein the user is provided with a display of the graphical block diagram model that includes the graphical subsystem block as the technique of Fig. 8A shows a system representation of a virtual instrument. Boxes 8a-8k, indicates conceptual objects in the system that have well defined properties. Objects 8i, 8j, and 8k are grouped into shaded box 8s and share some properties and form a class of objects (see col. 14, lines 63-67) and reading an attribute node refers to the execution subsystem reading the value of an attribute for a certain control during block diagram execution may changed by the user, or may have been changed during execution of a VI by the execution subsystem (see col. 6, lines 20-24). McKaskle-Uczekaj, however, does not disclose the limitation of wherein associating comprises modifying the display indicate to the user that a graphical subclass instance constructed for the selected block.

Chang discloses the limitation of wherein associating comprises modifying the display indicate to the user that a graphical subclass instance constructed for the selected block as the technique of the user may map table Employee 2010 and table Address 2020 to the class Person

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2030 (see col. 15, lines 5-6) and the associating graphical subclass table Employee of Define Mapping Information has been constructed for the modify of Employee Num., Name, Hire Date (see Fig. 23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include Chang's teaching of wherein associating comprises modifying the display indicate to the user that a graphical subclass instance constructed for the selected block into that of McKaskle-Uczekaj combined invention. By doing so, the system would be enhanced by capable of allowing user to select associating subclass instance for displaying and also allowing user to modify that subclass display screen based on user's desired manner.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. 111© to consider these references fully when responding to this action. The documents cited therein teach a technique on objected oriented programming which allowing user to edit, customize, and update class as well as subclass attributes on any level in graphical objects hierarchical structure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG T THAI whose telephone number is (703) 308-7234. The examiner can normally be reached on 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Cabeca, can be reached at (703) 308-3116.

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The fax numbers for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238 (After Final Communication)

(703) 872-9306 (Official Communication)


(703) 746-7240 (For status inquiries, Draft Communication).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8000.

CUONG T THAI

Examiner

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CAO (KEVIN) NGUYEN  
PRIMARY EXAMINER

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February 06, 2004